

IN THE CLAIMS

1. (Currently Amended) A cryoablation system comprising a cryotreatment catheter and a coolant console having:

an inlet line;

a reservoir of phase change coolant;

a supply line for supplying phase change coolant

a first means coupled to the supply line for providing the phase change coolant from the reservoir at elevated pressure along ~~an~~ the inlet line to a the cryotreatment probe catheter;

a second means for recovering the phase change coolant from the cryotreatment ~~probe catheter~~ and raising its pressure;

said first and second means, a portion of said supply line, and said cryotreatment catheter forming a supply loop external to the reservoir, the supply loop passing through the cryotreatment ~~probe and catheter~~, the first means being arranged in heat exchange communication with the supply line to condition the phase change coolant before it reaches the ~~probe catheter~~ along the inlet line so as to achieve effective cooling regimens by controlling phase change coolant provided along the inlet line while continuously recovering and recirculating expended coolant from the second means.

2. (Currently Amended) The cryoablation system of claim 1, wherein the first means conditions temperature of the coolant at elevated pressure in the inlet line, and further comprising:

a pressure regulator for controlling flow of coolant between the inlet line and the ~~probe catheter~~, and

a control microprocessor [processor] coupled to the pressure regulator and configured for setting the pressure regulator to effect a treatment cycle.

Claims 3-13: (Cancelled)

14. (Currently Amended) A coolant system for operation of a cryotreatment catheter to treat a patient, such system comprising:

a reservoir of phase change fluid;

a compressor for elevating the pressure of said fluid;

~~a conditioning assembly for conditioning~~ at least one heat exchanger for controlling the temperature and phase of the elevated pressure fluid;

a microprocessor-controlled pressure regulator for setting a cryotreatment supply regimen of defined pressure and duration to supply an effective amount of conditioned fluid to a coolant port of the cryotreatment ~~probe~~ catheter, and

a vacuum recovery assembly connectable to the cryotreatment ~~probe~~ catheter for continuously drawing expended fluid from the ~~probe~~ catheter ~~thereby preventing leakage into the bloodstream of the patient.~~

Claims 15-16: (Cancelled)